```
SEQUENCE LISTING
<110>
        Sanjay Bhanot
Kenneth W. Dobie
<120>
        MODULATION OF DIACYLGLYCEROL ACYLTRANSFERASE 2 EXPRESSION
<130>
        RTS-0678US
<160>
        233
<210>
        1
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        1
tccgtcatcg ctcctcaggg
                                                                        20
<210>
        2
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
                                                                        20
gtgcgcgcga gcccgaaatc
        3
<210>
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        3
                                                                        20
atgcattctg cccccaagga
<210>
<211>
        2439
<212>
        DNA
<213>
        H. sapiens
<220>
```

<220> <221> CDS

Page 1 of 65

<40 ctc		4 aac o	gcca	gege	eg c	ggct	gccg	c cto	etge	tggg	gtc	tagg	ctg ·	tttc	tctcgc	60
gcc	accad	ctg (gccg	ccgg	cc g	cagc	tcca	g gt	gtcc	tagc	cgc	ccag	cct	cgac	gccgtc	120
ccg	ggac	ccc 1	tgtg	ctct	gc g	cgaa	gccct	gg(cccc	gggg	gcc	gggg	cat (gggc	cagggg	180
cgc	ggggt	tga a	agcg	gctt	CC C	gcgg	ggcc	g tga	actgo	ggcg	ggc.	ttca	gcc	_	aag Lys	236
														cag Gln		284
														tcg Ser		332
														gcc Ala		380
														gaa Glu 65		428
														ctt Leu		476
														act Thr		524
														gac Asp		572
			_							_		-	_	aac Asn		620
														gtg Val 145		668
			_	_										cac His		716
														gag Glu		764
														gct Ala		812

ctg gca ggc aac ttc cga atg cct gtg ttg agg gag tac ctg atg tct Leu Ala Gly Asn Phe Arg Met Pro Val Leu Arg Glu Tyr Leu Met Ser 195 200 205 210 gga ggt atc tgc cct gtc agc cgg gac acc ata gac tat ttg ctt tca Gly Gly Ile Cys Pro Val Ser Arg Asp Thr Ile Asp Tyr Leu Leu Ser 215 220 225 aag aat ggg agt ggc aat gct atc atc atc gtg gtc ggg ggt gcg gct Lys Asn Gly Ser Gly Asn Ala Ile Ile Ile Val Val Gly Gly Ala Ala 230 235 240 gag tct ctg agc tcc atg cct ggc aag aat gca gtc acc ctg cgg aac Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr Leu Arg Asn 245 250 255 cgc aag ggc ttt gtg aaa ctg gcc ctg cgt cat gga gct gac ctg gtt Arg Lys Gly Phe Val Lys Leu Ala Leu Arg His Gly Ala Asp Leu Val
Gly Gly Ile Cys Pro Val Ser Arg Asp Thr Ile Asp Tyr Leu Leu Ser 215 220 225 aag aat ggg agt ggc aat gct atc atc atc gtg gtc ggg ggt gcg gct Lys Asn Gly Ser Gly Asn Ala Ile Ile Ile Val Val Gly Gly Ala Ala 230 235 240 gag tct ctg agc tcc atg cct ggc aag aat gca gtc acc ctg cgg aac Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr Leu Arg Asn 245 250 255 cgc aag ggc ttt gtg aaa ctg gcc ctg cgt cat gga gct gac ctg gtt 1052
Lys Asn Gly Ser Gly Asn Ala Ile Ile Ile Val Val Gly Gly Ala Ala 230 235 240 gag tct ctg agc tcc atg cct ggc aag aat gca gtc acc ctg cgg aac 1004 Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr Leu Arg Asn 245 250 255 cgc aag ggc ttt gtg aaa ctg gcc ctg cgt cat gga gct gac ctg gtt 1052
Glu Ser Leu Ser Ser Met Pro Gly Lys Asn Ala Val Thr Leu Arg Asn 245 250 255 cgc aag ggc ttt gtg aaa ctg gcc ctg cgt cat gga gct gac ctg gtt 1052
-99 99 9-9
260 265 270
ccc atc tac tcc ttt gga gag aat gaa gtg tac aag cag gtg atc ttc Pro Ile Tyr Ser Phe Gly Glu Asn Glu Val Tyr Lys Gln Val Ile Phe 275 280 285 290
gag gag ggc tcc tgg ggc cga tgg gtc cag aag aag ttc cag aaa tac 1148 Glu Glu Gly Ser Trp Gly Arg Trp Val Gln Lys Lys Phe Gln Lys Tyr 295 300 305
att ggt ttc gcc cca tgc atc ttc cat ggt cga ggc ctc ttc tcc tcc 1196 Ile Gly Phe Ala Pro Cys Ile Phe His Gly Arg Gly Leu Phe Ser Ser 310 315 320
gac acc tgg ggg ctg gtg ccc tac tcc aag ccc atc acc act gtt gtg Asp Thr Trp Gly Leu Val Pro Tyr Ser Lys Pro Ile Thr Thr Val Val 325 330 335
gga gag ccc atc acc atc ccc aag ctg gag cac cca acc cag caa gac Gly Glu Pro Ile Thr Ile Pro Lys Leu Glu His Pro Thr Gln Gln Asp 340 345 350
atc gac ctg tac cac acc atg tac atg gag gcc ctg gtg aag ctc ttc Ile Asp Leu Tyr His Thr Met Tyr Met Glu Ala Leu Val Lys Leu Phe 355 360 370
gac aag cac aag acc aag ttc ggc ctc ccg gag act gag gtc ctg gag Asp Lys His Lys Thr Lys Phe Gly Leu Pro Glu Thr Glu Val Leu Glu 375 380 385
gtg aac tga gccagccttc ggggccaact ccctggagga accagctgca aatcactttt 1447 Val Asn
ttgctctgta aatttggaag tgtcatgggt gtctgtgggt tatttaaaag aaattataac 1507
aattttgcta aaccattaca atgttaggtc ttttttaaga aggaaaaagt cagtatttca 1567
agttetttea ettecagett geeetgttet aggtggtgge taaatetggg ectaatetgg 1627
gtggctcagc taacctctct tcttcccttc ctgaagtgac aaaggaaact cagtcttctt 1687

APP_ID=10643801 Page 3 of 65

ggggaag	aag gattgccatt	agtgacttgg	accagttaga	tgattcactt	tttgccccta	1747
gggatga	gag gcgaaagcca	cttctcatac	aagccccttt	attgccacta	ccccacgctc	1807
gtctagt	cct gaaactgcag	gaccagtttc	tctgccaagg	ggaggagttg	gagagcacag	1867
ttgcccc	gtt gtgtgagggc	agtagtaggc	atctggaatg	ctccagtttg	atctcccttc	1927
tgccacc	cct acctcaccc	tagtcactca	tatcggagcc	tggactggcc	tccaggatga	1987
ggatggg	ggt ggcaatgaca	ccctgcaggg	gaaaggactg	cccccatgc	accattgcag	2047
ggaggat	gcc gccaccatga	gctaggtgga	gtaactggtt	tttcttgggt	ggctgatgac	2107
atggatg	cag cacagactca	gccttggcct	ggagcacatg	cttactggtg	gcctcagttt	2167
accttcc	cca gatcctagat	tctggatgtg	aggaagagat	ccctcttcag	aaggggcctg	2227
gccttct	gag cagcagatta	gttccaaagc	aggtggcccc	cgaacccaag	cctcactttt	2287
ctgtgcc	ttc ctgagggggt	tgggccgggg	aggaaaccca	accetetect	gtgtgttctg	2347
ttatctc	ttg atgagatcat	tgcaccatgt	cagacttttg	tatatgcctt	gaaaataaat	2407
gaaagtg	aga atccaaaaaa	aaaaaaaaa	aa			2439
<210> <211> <212> <213> <223> <400>	5 22 DNA Artificial Sec PCR Primer	quence				
	cct tacctggcta	ca				22
<210> <211> <212> <213> <220>	6 24 DNA Artificial Sec	quence				
<223>	PCR Primer					
<400> cagacat	6 cag gtactccctc	aaca		•		24
<210> <211> <212> <213>	7 22 DNA Artificial Sec	quence				

APP_ID=10643801 Page 4 of 65

```
<223>
        PCR Probe
<400>
        7
                                                                       22
tggcaggcaa cttccgaatg cc
<210>
        8
<211>
        19
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
        PCR Primer
<400>
        8
gaaggtgaag gtcggagtc
                                                                       19
<210>
        9
<211>
        20
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
        PCR Primer
<400>
        9
                                                                       20
gaagatggtg atgggatttc
<210>
        10
<211>
        20
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
        PCR Probe
<400>
        10
                                                                       20
caagetteec gtteteagee
<210>
        11
<211>
       2262
<212>
       DNA
<213> M. musculus
<220>
<220>
<221> CDS
<222> (207)...(1373)
<400>
       11
ggtggccgcg cttcgctggc tttctgctca tctagggtgg cagcggctac ctacctcagc
                                                                      120
tctcgccctg ctgccgccac ggcctgggcg ctgtccctca gctcccggag ctcagcgcga
```

agccetggee eeggeggeeg gggeatgggt eaggggegeg gegtgaggeg getttetgea	180
cggccgtgac gtgcattggc ttcagc atg aag acc ctc atc gcc gcc tac tcc Met Lys Thr Leu Ile Ala Ala Tyr Ser 1 5	233
ggg gtc ctg cgg ggt gag cgt cgg gcg gaa gct gcc cgc agc gaa aac Gly Val Leu Arg Gly Glu Arg Arg Ala Glu Ala Ala Arg Ser Glu Asn 10 15 20 25	281
aag aat aaa gga tct gcc ctg tca cgc gag ggg tct ggg cga tgg ggc Lys Asn Lys Gly Ser Ala Leu Ser Arg Glu Gly Ser Gly Arg Trp Gly 30 35 40	329
act ggc tcc agc atc ctc tca gcc ctc caa gac atc ttc tct gtc acc Thr Gly Ser Ser Ile Leu Ser Ala Leu Gln Asp Ile Phe Ser Val Thr 45 50 55	377
tgg ctc aac aga tct aag gtg gaa aaa cag ctg cag gtc atc tca gta Trp Leu Asn Arg Ser Lys Val Glu Lys Gln Leu Gln Val Ile Ser Val 60 65 70	425
cta caa tgg gtc cta tcc ttc ctg gtg cta gga gtg gcc tgc agt gtc Leu Gln Trp Val Leu Ser Phe Leu Val Leu Gly Val Ala Cys Ser Val 75 80 85	473
atc ctc atg tac acc ttc tgc aca gac tgc tgg ctg ata gct gtg ctc Ile Leu Met Tyr Thr Phe Cys Thr Asp Cys Trp Leu Ile Ala Val Leu 90 95 100 105	521
tac ttc acc tgg ctg gca ttt gac tgg aac acg ccc aag aaa ggt ggc Tyr Phe Thr Trp Leu Ala Phe Asp Trp Asn Thr Pro Lys Lys Gly Gly 110 . 115 120	569
agg aga tcg cag tgg gtg cga aac tgg gcc gtg tgg cgc tac ttc cga Arg Arg Ser Gln Trp Val Arg Asn Trp Ala Val Trp Arg Tyr Phe Arg 125 130 135	617
gac tac ttt ccc atc cag ctg gtg aag aca cac aac ctg ctg acc acc Asp Tyr Phe Pro Ile Gln Leu Val Lys Thr His Asn Leu Leu Thr Thr 140 145 150	665
agg aac tat atc ttt gga tac cac ccc cat ggc atc atg ggc ctg ggt Arg Asn Tyr Ile Phe Gly Tyr His Pro His Gly Ile Met Gly Leu Gly 155 160 165	713
gcc ttc tgt aac ttc agc aca gag gct act gaa gtc agc aag aag ttt Ala Phe Cys Asn Phe Ser Thr Glu Ala Thr Glu Val Ser Lys Lys Phe 170 175 180 185	761
cct ggc ata agg ccc tat ttg gct acg ttg gct ggt aac ttc cgg atg Pro Gly Ile Arg Pro Tyr Leu Ala Thr Leu Ala Gly Asn Phe Arg Met 190 195 200	809
cct gtg ctt cgc gag tac ctg atg tct gga ggc atc tgc cct gtc aac Pro Val Leu Arg Glu Tyr Leu Met Ser Gly Gly Ile Cys Pro Val Asn 205 210 215	857
cga gac acc ata gac tac ttg ctc tcc aag aat ggg agt ggc aat gct	905

Arg A	qs <i>P</i>	Thr 220	Ile	Asp	Tyr	Leu	Leu 225	Ser	Lys	Asn	Gly	Ser 230	Gly	Asn	Ala	
atc a Ile I 2																953
ggc a Gly I 250																1001
gcc c Ala I																1049
aat g Asn G																1097
tgg g Trp V		_	_	_		-	_					_		_		1145
ttc c Phe H 3			_						_				_			1193
tac t Tyr S 330		_					-							_		1241
aag c Lys L	_			_		-		-		_	-			_	_	1289
tac a Tyr M	_		_	_		_	Leu		-			_				1337
ggc c Gly L											tga	ccca	agcco	ctc		1383
gcgtg	gcca	ıgc t	cct	ggag	gg ga	acgac	ctgca	a gat	cctt	ttc	taco	cgagt	tc t	tgaç	gtgcat	1443
tttgt	tct	gt a	aatt	tgga	aa go	gtca	tggg	g tgt	ctgt	ggg	ttat	ttaa	aaa g	gaaat	tataa	1503
tgtgt	taa	ac c	catto	gcaat	g tt	agat	gttt	ttt	taaç	gaag	ggaa	agagt	ca q	gtatt	ttaag	1563
ctcac	cttc	ta g	gtgtg	gtcct	g ct	caac	ggtgg	gagg	gctga	tat	ttat	gggd	cct t	ggt	ggtttc	1623
ttacc	ccac	da c	ettet	agco	gt to	ccca	gaco	g aca	igaca	ctt	ggco	cctg	gct a	gct	ggcaa	1683
gggca	igto	ct t	agto	gacto	cc ag	ggat	tctt	gag	gaggo	aga	ggco	catgt	cc c	cacco	cgtggc	1743
tgcag	gto	gg g	jttco	ctcgt	a co	caago	ggaç	g gct	gagg	gca	cago	ctggd	ccc c	cactt	gggga	1803
gggta	gat	aa c	atct	ggad	ct go	ccgc	gette	g ggt	ctct	gct	ccto	cacco	cta c	jecet	cttct	1863
ccaat	ctg	ag c	ctac	cct	gg co	tcct	gtct	cct	ggct	agg	gaca	cggc	ctg t	ccca	caggt	1923

APP_ID=10643801 Page 7 of 65

gccgtctt	tgg	gttatctcgc	tgctgttggc	tggtttcact	ctggaggttg	gcaccatgga	1983
cacagcto	cag	cgttgctctg	gcgcatatcc	tcctgagcca	caccccaagt	ctggtgtgag	2043
gaagggct	ttc	tcttctcttc	acagaggtgc	ctggcttcct	gtgcagcaca	ctgggtccag	2103
gacagga	ggc	ccccccca	aaccaagcct	cacgtgtgtg	cctttatgag	gcgttgggag	2163
aaagctad	ccc	tcctgtgtat	tctgttttct	ccatgagatt	gttgtgccat	gtcacacttt	2223
tgtatatt	tcc	tagactaata	aatggaaaca	agaacagcc			2262
<210> <211> <212> <213> <220>	12 20 DNA Art	A cificial Sec	quence				
<223>	PCF	R Primer	•				
<400> actctgga	12 agg	ttggcaccat					20
<210> <211> <212> <213>	13 19 DNA Art	A cificial Sec	quence	·			
<220>						·	
<223>		R Primer					
<400> gggtgtg	13 gct	caggaggat					19
<210> <211> <212> <213>	14 18 DNA Art	N cificial Sec	quence				
<220>					,		
<223>	PCF	R Probe					
<400> cagcgtto	14 gct	ctggcgca					18
<210> <211> <212> <213>	15 20 DNA Art	A :ificial Sec	quence			·	

```
<223>
       PCR Primer
<400>
       15
                                                                    20
ggcaaattca acggcacagt
<210>
       16
<211>
       20
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
       PCR Primer
<400>
       16
gggtctcgct cctggaagat
                                                                    20
<210>
       17
<211>
       27
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
       PCR Probe
<400>
       17
                                                                   27
aaggccgaga atgggaagct tgtcatc
<210>
       18
<211>
       42823
<212>
       DNA
<213>
       H. sapiens
<220>
<400>
gcagcagaag tgttaaagtt taagtgaaag ttttaaaaaag gggtatgtgt ggttgtaaag 60
aaggettett ggaggaagat geateaagae aggaeagatg gaeagggtgt gaaaaagggg 120
gagettgggg aagggettga geteaagage acagtgtggg cagggaceca gaggtggaaa 180
agcacgttca ggggcagggc aagtgacctg atgggcctag ggagctggac ccacattaga 240
gcatggcggt gggagaggag tggaggcggc tggagagagt ggcaggagca ggatgatgtg 300
aggeettgaa tgeeaagtta aggagetggg geeteateet aagaactatg gggageeaeg 360
agaaacaatg gttgggttct gtgttctgaa gctcattctg ggaatctgga gacaggggac 420
cagtgaagag gatagtacag ctgtctatgc aaggtggcat ggcccaaggc agaagagaga 480
aggagagaac tgtttcctgg ttgttgggca tagaggtatc agtgtgaatg tttttgtatg 540
ccctattcag tttcatgacc cagcataccc agcagcctgg gggaggccaa agttaccaaa 660
gaaagagget gagagacatt cagttaaage etgactttat agttetteet catcaacace 720
atcctgcaaa ttcacattca tctacaggct ttcagggtgt tttaatccca gttatctcac 780
ccaaaatatt tgcttttccg cctttctttg tgtttcctgt atgcctcatg tcagcatcct 840
tgttcaggtc acttacttaa aaaaaaaaaa aaatccataa ggccgggctg aggtggagcc 900
tggagtgacc aggaaaccac tctagaatga actcctacct gaggcagctc ctcctcccta 960
gcagagecca caetggeetg etgateacet ecetgeteag gaetetgetg ataceataga 1020
cctagtccta ggccagtttg ggaatctaga gaggccattg aaaagaaaac tgatatatgg 1080
ataccacccc tcctcggtga ctcaatcgta gctcctgaca actcagggtt ttgtttttt 1140
```

APP_ID=10643801 Page 9 of 65

•						
gtttgtttgt	tttttctctt	gagggttaca	gagcatcatt	tatagaatgc	agtttataca	1200
actgacctca	gaatatggcc	aggattttgc	agctattata	gagcatggtc	tctggagcca	1260
gaccatctca	gcttaaatcc	tggctctgcc	acttcctaag	ctgtgtgacc	ttgggcaatt	1320
ttttttaacc	tctttgtgtc	tcaatttctc	catctgaaaa	atggactcat	atagtatcta	1380
ctccaaaggg	ttgttgtgag	gcttaactaa	atccacccat	gtaaggaacc	tagaatagta	1440
actggcagac	agtaaatact	caċtgaagtt	taacacctgt	tatattgcct	gttatagttc	1500
					cctccagtct	
					aatctgcagg	
					tccactgtag	
					tagcagtatc	
					aacctactga	
					ctgctaatgt	
					tggcgcagtt	
					ttttactaac	
					atcctccctg	
					ggcagcccag	
	_				caacatttcc	
					cccttgctca	
					ggttctttgt	
					tccctccctt	
					tgtcacccta	
					tatatgccag	
					gtgtctctct	
					aactcctgga	
					tacagacaca	
					ctgtgttgcc	
					ccaaagtact	
					ttttagtctt	
					ggaaactgag	
					agtctggggc	
					atgtattcat	
					gggtctgacc	
					ctgaatgccc	
					tttcaaactg	
					caaaccctga	
					tctcaaggtt	
	•				ccagcgcttt	
					gctaacatgg	
caaaacctcg	tctctaaaaa	tacaaaaaaa	aaattagctg	gatgtggtgg	cgggcgcctg	3480
					aggtggagct	
					agactccgtc	
tcaaaaaaaa	aaaaaagaaa	aaagaaaaaa	agaaatggtt	tcactgcttt	taaaaagcta	3660
gaaactactg	ctgaataata	attgtcattt	taggtgtctg	tttcttcccc	cagaatgccc	3720
ctaaggagca	agaactgtac	ccacagcacc	cagcacaagg	atggggggtc	tcaggaaagg	3780
tcggccagat	agaagggcag	atgagaaatg	aatgtactgg	gagctctctg	tgtaatatcc	3840
cctcccccac	cctcacccca	cccccaatt	cctgcaggga	agaggccttg	agagagttga	3900
gtaagaaata	agcaggcaga	atgatgcaag	gggagctgtc	tgtacacatt	gcaacagaac	3960
tttctaaaac	aagcctgggg	ctgctcccaa	gggtctcagt	cctgccctat	tcctctactg	4020
tcatccagac	ctgtcacaca	agatagggcc	aaaggccatt	accaagctct	gctaaggcct	4080
gaccttagag	ctgggaggtc	tgtgctcttg	ggttctggtt	tgaaacccgg	agccatcttc	4140
					gagactctaa	
					ccttcagttc	
	_		-		tccatccaat	
					cttccatgtg	
					tccttcaggc	
cagatcccct	gtgaggtgac	tagtcctggg	ctactgcacc	atcccttgag	ttttctctat	4500
					tacccagttt	
					taggaagggt	
					aaagcataaa	
actcctgcta	aaaacctcta	tggctcccca	ttgccctgag	aataaagtcc	agactctgta	4740
					•	

APP_ID=10643801 Page 10 of 65

gcctgccacc	caagactata	taccatcagg	cccctgacca	caaagcagca	gcagcatgtg	4800
					agacttccaa	
					gtaaggaggc	
gggtgagttt	ccaggctaga	gggccatgcc	aggctgcctc	tgcttgccag	aaccctgccc	4980
gcccactctc	caagtgagtt	gagcactgaa	aggagtttaa	ccccaatggg	ccctagcctt	5040
					tccctgagct	
					gatggatggg	
					ccttgggagg	
					gctttactac	
					gtgcaaagcg	
					cacaagccag	
					cctgtgcctc	
					catgtgtgca	
					gtcaaacctc	
					gtgattgaag	
					ctttggtcca	
					cctggtcaag	
					atgggttgag	
					ctgctcacac	
					aagcatggga	
					acacagggga	
					ctctaagttt	
					acccatgggc	
					ggggctgctt	
					ctcacctctg	
					attttatggc	
					tttttttt	
					gcacaatctc	
					cctcccgagt	
					tagcagagag ccacccgcct	
					cagtttatct	
					tggtccatcc	
					gatctgggcc	
					ctttcagcca	
					ccctctgcct	
					ggtctgcagc	
					tatgactcta	
					ctaggcccac	
					gtggagaggc	
					catgttaccc	
					tcgattgggt	
					gccgggccca	
					atgtttcaaa	
			taagacaatg		-	7440 7500
			cacttcatcc			
					agacaagata	
					ggcctcctcc	
					tccaggccag	
					ttactggcac	
					ctgtttctac	
_	-	_	_		tgtggcatgc	
					atggcctcac	
					ttcgggcctt	
					tgaacaaatg	
					ctgtaacttc	
					ggaattcctc	
					aatctgtctt	
					aagtcgctcc	
accacatgct	ggtggatctc	gcttcctatg	ctcttcccta	gatcaggcct	tccctccatt	8340

APP_ID=10643801 Page 11 of 65

ccctctacca	ctgccgtgcc	ttgaggctca	tcctctctca	catggatccc	ccgcccctac	8400
agcctcccca	ctgccctcct	gacctacagc	ctctcctgtc	catttcccat	accatggcta	8460
aggacactta	aaacccacct	gaccagccat	ttccctacta	aagctctccc	aagacccggc	8520
				tcagttcaag		
tctcacttca	gcctcatttt	ccacagttgc	ctgggctcca	gccactccag	ggcccccagc	8640
cctgccccaa	acatgctggc	ttttctaaca	ctttatgcct	atctttctgc	tttgccctca	8700
				ccattctgga		
				atttacttct		
				aaactgaggc		
				ctgctgtgca		
				agagtettet		
				tcaccagtga		
				aacctgggct		
				ttcttaataa		
				cctaactaat		
				acagcccctc		
				tgcttggttt		
				gcccggggtc		
				tcagagctgc		
				cccgggcccg		
				ggcggcttag		
				aaagtgttgc		
				tttctctcgc		
				cgacgccgtc		
				gggccagggg		
				atgaagaccc		
				gaccggagcc		
				ggtgagtgcc		
				tggcaggctg		
				tttacgacct		
				ggtgggagcg		
				gcccccactg		
				cgagctttgg		
				acagccacca		
				ccacatccat		
				atgcttagaa		
				gtgaatcgcg		
				gaggaatagc		
				ggaggaagca		
				tccggtagac		
				gcccctctcc		
				tctttagtaa		
				attatggaat		
				aagatacctt		
				atagatacaa		
	-	-		tgtaacatcg		
				ataacccacc		
				tgtgtgatta		
				aagaggaacc		
				cagccagtag		
		_		tttgatgtcc		
				atgtttttgc		
				ccattccgtc		
				ctggctgtca		
				ggttttaacc		
				ttgaaaactt		
				gctggtatga		
				gggtggagta		
				gccttctaga		
ttgaagatac	tccccagtgg	cctagtttgc	ctctgtgggt	aaggtcccac	tgttgtgagc	11940

APP_ID=10643801 Page 12 of 65

tggtgaad	cag	cccgtcagtg	acagtattca	agtagagacc	atggattctg	tgaagggaag	12000
tcctgtga	acg	ggtgagagat	tgaaatagat	accttggcat	ctggtttctt	ggccaaaaaa	12060
aaaggcca	agc	tgtgggagta	tgggtaggtg	ggtgcatgct	gggggaagcg	ggagtctgtg	12120
						gcagagttca	
tcaggaca	agg	agggatatat	atcctattct	ttatccttgc	ctttggattg	ggggctcttc	12240
						gacctagcat	
						tccaaagagt	
						ggagtccttt	
						ccacatcact	
						tgagggttga	
						tccctctcca	
						ggccactttg	
						aatgttgtat	
						accctcctgc	
						ggcccaaccc	
						agggttatca	
						aagccaagag	
						gtgctcagtg	
						ccttctcaaa	
						tcccccagag	
						cttcagactt	
						cactgccatc	
						tcttcctgtt	
						tgcctgtctg	
						tcttccctgg	
ccacccta	atc	tagagagcca	cttccaatct	agagagccac	ttccaatcac	cacatcttct	13500
						gtttaagcaa	
						tttcgcctgt	
						gttcgagacc	
						tagccaggtg	
						gtcgcttgaa	
						cgtgggtaac	
						atatgagtcc	
						cagtgcctgg	
						tgggactgcc	
						gccttccttg	
						tgtagctgtt	
						agtggcaagt	
						gaagcccgag	
						cttcctctct	
						tcaaggatgg	
						gttagtcctt tggcagaccc	
						gacccttcat	
tttattas	999 att	gaggaggttc	tatatataa	ctacaatccc	tacatttaaa	gaagtgagac	14640
cadadada	ata	tacacaacat	gactgtgcag	agtgatctga	acaataacaa	gaaagactgc	14700
cagggggc	tra	daccadadac	cttgatcacc	ctgaggggggg	gcaacgacag	ctggaagagg	14760
tgacatto	cad	tccggatctg	gaaagatgaa	tagacatcag	caagacaggc	aagaacattc	14820
aggtacac	raa	aatagcataa	atagagggat	gagatttgga	taggagagge	agactgactg	14880
						cagagacaag	
						gcagcaggag	
						cctccagcac	
						gcagggccca	
						ctgctccgca	
gcctcago	caa	gccactaccc	ttccttaccc	tcagtctcct	catctatgaa	atgagcaaaa	15240
gtgtcata	aaq	aacctgtgca	gattatqqtq	cagatgcaga	caggctacac	cctgtgaacc	15300
						agcagaatta	
						gcctcttagg	
						cttggcttcc	
						gggactcttg	

APP_ID=10643801 Page 13 of 65

aggtcagcca	cctcctcatt	cttgtcctca	gcttctcctt	gtgaaaatgg	tgcactcatc	15600
cacttggggc	caaggtaagt	gccccagaag	aacctgtctc	cccatgcttg	cccatatatt	15660
					tagtgttgcc	
					agtgggtggg	
					gatgtagatc	
					ttacctcttg	
					gtgtatggag	
					aaattcattt	
					aacaaatcca	
					gaggcttagc	
					cctgaggact	
					catagctgtg	
					ggccctgctt	
					tttcagaaaa	
					ggctcttagg	
					tagaggccag	
gactcctaga	cctagcatcc	cagtccttca	tgcctccctg	tttctctact	tttccaacta	16560
					ctcaaacttg	
					taccttcctc	
					ggattcctag	
					tatcttgggt	
					ggagaagcag	
					agaaagcact	
					ggccttccac	
					gattccccag	
					gactttttc	
					tcattcagca	
					gcccagatga	
					aaagggctga	
					ggaggagaag	
					ctcagtgcct	
					aagcaataga	
					gtctctggct	
					gggagcccag	
					gctttgccat	
					ctggaggagc	
					ttggcctgac	
					tgaccctcac	
					aaactgtttg	
					gggtgacttt	
					tggcatcctt	
					gaġcccaaga	
					tgccagacat	
					aaagctaagg	
aggaçactga	gtcccaggga	cagggagtga	tttgcaaggt	ctcattgcag	gtaagaatca	18240
gagccagggt	ttgaatccta	agttagcctg	tcgcctacgc	ctctgttcct	aggcagggca	18300
ggcattattt	tacccatcaa	acaggagagg	acaccgaggc	ttacttggta	attaatcagc	18360
					atttaattcc	
					ctgaagcttg	
					ctcctgactc	
					tgccagtatg	
					gcccacagtc	
					ccagggatcc	
					ctcgtcgctg	
					cagaagttaa	
					ctgcctctga	
					agcgcttagt	
					cacccaggaa	
					ggcagtcact	
Caccocctt	cocyyyttot	Lyaylatilg	ggrargaara	actayaactC	cctgcaaggc	エシエゼロ

APP_ID=10643801 Page 14 of 65

tttgttccag	cagtttcccc	caaccacagt	gcgcactttc	ctcctgtttg	acccctagat	19200
cttgtcttca	gggccctggc	gaagcctcat	ggcctccttg	gagcctcctc	tgcgctacca	19260
tcactctgcg	acctcttctt	gtaacacaga	cctgtggcca	tgagcctctg	gaaaaactct	19320
					gccagtagcc	
					ttaatgttcc	
					aggcgggcgg	
					atctctacca	
					tactcgggag	
					cgagatcgca	
					aaaaaaaaa	
					cctatagata	
					caagggcaga	
					tgctgccctc	
					gtggccttcc	
					tcaacacccc	
					gcgggggtgg	
					agaggaggga	
					tttggtgggg	
					gaataccttc	
					ttgggcttca	
cctcacctca	gtttccttct	ctataaaaa	ggattgccag	ttctccctt	gcctaccttc	20400
					gattgctttc	
					gccttcccca	
					ccatttgagt	
					cagagacatc	
					gggagggcaa	
					tttgcctcct	
					ggctgctctg	
					cttaccacag gccaagtaaa	
					gggcagatag	
					gtcaggaaca	
					tcggcatccc	
					ctgacagcca	
					cccatctgcc	
					taccctgaca	
					ccccatttc	
					ttggtggcag	
					atgcctgctc	
					ttccagctcc	
					gacatgcaac	
					gccagcatct	
					aaactcacag	
					gcctcttgtg	
					gagtggccag	
					tcagacccag	
					gcagttagaa	
					attgtgcggg	
					tggcaattcc	
					tctttccaaa	
					gtattgcttt	
					cctagaatat	
					ccaggccagc	
					cctgggcctg	
					ctctaacgcc	
					cagcagtccc	
					atttcccact	
					gagaaccgaa	
					ttgggagact	
cccgcaggcc	ctcaatttcc	agtctgtata	acggggtgag	ggttgaacaa	gatggcgtgc	22/40

APP_ID=10643801 Page 15 of 65

gtttcctgcg						
	ctatgacttt	acctaatttt	aagacaccta	ataagcttag	cagagagatt	22800
tagattaggc				gtttcagttg		
				ggctggccct		
				tacgcacccc		
ggcttcaggg	gcctgtctgc	aacgggaagc	aagtcagcca	cgagaaggca	tgctttgcct	23040
ttttttcctg	ccaaatagaa	ggtggtgttc	cccggtgctg	tgtctcaccc	cagcccctac	23100
ctgagtgttt	ggactgaagc	atttatagtg	gtgtttctca	gacttaatca	cctggggatc	23160
				agcccaaagt		
				ccacgctttg		
				agcctgcctc		
				ctcctgcttc		
gcatggctca	ggaggcagag	ccagctgctg	gaagatgact	tgtccagccc	cagcccttgg	23460
atcaagggtt	caagcctgtg	cttggacttc	acttccctcc	cttatatact	cacccagtcc	23520
				caaggataag		
				gccctgagca		
				ctggggaaag		
				gccgcctact		
				ctggctgtcc		
				ttgctgggca		
tgggaaagtc	ctatgaaggt	aggatttttg	taaagggggc	gaaggagcaa	ttatgaggca	23940
				ttttgtgagt		
				tactgaacac		
				gtcacatagt		
				cctttccctc		
				ccttcctcct		
				taaactctgc		
ttgctttgca	gattttgaag	aaaagcaaag	gcttgagtgt	aggcccctaa	atccgtcttt	24360
				agaccctcaa		
				atggtatgaa		
				aagggcatgt		
				cggaaggaat		
				tgcagtcacc		
				ctaggggcac		
aagtgggcac	atctcgtcct	aacttccagg	cttggcactt	gattgatagt	gaacataatt	24780
acagccctca	gtgtccttca	ggctgcctga	agctcactgg	ctactgggcc	ctttggggaa	24840
			ccccacgctt			
qcaaaqqctc	Clacillact			cygycactya	gatgaggctg	24000
aacatttaca	tctctctgaa	agtggtagtg	gtgtggggaa	tçagtggtgt	tgggggtggg	24960
aacatttaca ggcaagaggg	tctctctgaa ttcagctcct	agtggtagtg tggagaaggg	gtgtggggaa gtattagtct	tcagtggtgt gggacataca	tgggggtggg gaaggcagag	24960 25020
aacatttaca ggcaagaggg cagggattgg	tctctctgaa ttcagctcct ggatgctcaa	agtggtagtg tggagaaggg agtacacttg	gtgtggggaa gtattagtct gagaaaaaaa	tcagtggtgt gggacataca accattgcaa	tgggggtggg gaaggcagag attggatgtt	24960 25020 25080
aacatttaca ggcaagaggg cagggattgg gaacctctgt	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc	agtggtagtg tggagaaggg agtacacttg acagacagat	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta	tcagtggtgt gggacataca accattgcaa aatatttgta	tgggggtggg gaaggcagag attggatgtt ctagattcag	24960 25020 25080 25140
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag	24960 25020 25080 25140 25200
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc	gtgtgggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat	24960 25020 25080 25140 25200 25260
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc	gtgtgggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat	24960 25020 25080 25140 25200 25260
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg	gtgtgggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca	24960 25020 25080 25140 25200 25260 25320
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct	24960 25020 25080 25140 25200 25260 25320 25380
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac	gtgtgggaa gtattagtct gagaaaaata agcaaaatta gggatggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta	gtgtggggaa gtattagtct gagaaaaata agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620 25680
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag agaggtagag	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagcct	gtgtgggaa gtattagtct gagaaaaata agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620 25680 25740
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag agaggtagag	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagcct	gtgtgggaa gtattagtct gagaaaaata agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620 25680 25740
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa tcttacacat	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag agaggtagag gctgcccac	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagccct agcaccttc	gtgtggggaa gtattagtct gagaaaaata agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa ttttgggtcc	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620 25680 25740 25800
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa tcttacacat gctctaccc	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag agaggtagag gctgccccac tcagcatgca	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagccct agcacctttc tgaagattca	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc gcaagattca	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa ttttgggtcc gtgggaggtg	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25620 25620 25680 25740 25800 25860
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa tcttacacat gctctacccc	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtgaa actgggtaag agaggtagag gctgcccac tcagcatgca agatggaaa	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagccct agcaccttc tgaagattca cctcaagtct	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc gcaagattca tagagaagat	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa ttttgggtcc gtgggaggtg aggtaacttg	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25620 25620 25620 25860 25740 25800 25860 25920
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa tcttacacat gctctacccc tcccatttac cacagatttg	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtgaa actgggtaag agaggtagag gctgccccac tcagcatgca agatgggaaa aatccctgtc	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagccct agcaccttc tgaagattca cctcaagtct tacaggaccc	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc gcaagattca tagagaagat ccaaagcctg	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa ttttgggtcc gtgggaggtg aggtaacttg tgccttccc	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620 25680 25740 25860 25920 25980
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa tcttacacat gctctacccc tcccatttac cacagatttg cctgccacc	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag agaggtagag gctgccccac tcagcatgca agatgggaaa aatccctgtc aacagacatt	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagccct agcacctttc tgaagattca cctcaagtct tacaggaccc ttccagcagg	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatggagg tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc gcaagattca tagagaagat ccaaagcttg tatgttactt	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggcag ttttgggtcc gtgggaggtg aggtaacttg tgcctttccc tgccttaagg	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620 25620 25740 25860 25920 25920 26040
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa tcttacacat gctctacccc tcccatttac cacagatttg cctgcccacc ccaggtttaa	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggatttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag agaggtagag gctgccccac tcagcatgca agatgggaaa aatccctgtc aacagacatt gtcctgaatc	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagcct tagaagattca cctcaagtct tacaggaccc ttccagcagg tcctgcagac	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc gcaagattca tagagaagat ccaaagcctg tatgttactt aagctctgtg	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa ttttgggtcc gtgggaggtg aggtaacttg tgcctttccc tgccttaagg accttacaca	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620 25620 25740 25800 25920 25980 26040 26100
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa tcttacacat gctctacccc tcccatttac cacagatttg cctgcccacc ccaggtttaa gctctctgag	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag gctgccccac tcagcatgca agatggaaa actgggtaag gctgccccac tcagcatgca agatggaaa aatccctgtc aacagacatt gtcctgaatc tgttagttc	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagccct agcacctttc tgaagattca cctcaagtct tacaggaccc ttccagcagg tcctgcagac ctcattttga	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc gcaagattca tcgaagaagat ccaaagactg tatgttactt aagctctgtg gtgtgagga	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa ttttgggtcc gtgggaggtg aggtaacttg tgccttccc tgccttaagg accttacaca agtgcctgct	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25260 25320 25380 25440 25500 25560 25620 25620 25860 25740 25860 25920 25980 26040 26100 26160
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttcccaaa tcttacacat gctctacccc tccatttac cacagatttg cctgcccacc ccaggttaa gctctctgag tttttgagga	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtggaa actgggtaag gctgccccac tcagcatgca agatggaaa actgggtaag gctgccccac tcagcatgca agatgggaaa atccctgtc aacagacatt gtcctgaatc tgttagttc ttgaagataa	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagccct agcacctttc tgaagattca cctcaagtct tacaggaccc ttccagcagg tcctgcagac ctcattttga gaaatgagag	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc gcaagattca tagagaagat ccaaagcctg tatgttactt aagctctgtg gtgtgaggaa cacctggcac	tcagtggtgt gggacataca accattgcaa aatattgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa ttttgggtcc gtgggaggtg aggtaacttg tgcctttccc tgccttaagg accttacaca agtgcctgct agggcctggt	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25320 25380 25440 25500 25560 25620 25860 25740 25800 25920 25920 26040 26100 26160 26220
aacatttaca ggcaagaggg cagggattgg gaacctctgt ataagggaca acttcccaag gaccccgagt tgcagacagc gtctgattct ttgtactggg ctgtaggcac tcaataggtc ccttccttgt cttccccaaa tcttacacat gctctacccc tccatttac cacagatttg cctgcccacc ccaggtttaa gctctctgag tttttgagga ccccattaca	tctctctgaa ttcagctcct ggatgctcaa ccttggcctc ggagtttgac gcctagccct gcgataccat ccagagttac atagctgatg gaccccatga tggatccagc caaggtgaaa actgggtaag gctgcccac tcagcatgca agatggaaa actgctgatc acagacatt gtcctgaatc tgttagttc ttgaagataa tgggaatcat	agtggtagtg tggagaaggg agtacacttg acagacagat tggggtggag tggactagcc tcccattgtg aaagccatga ctcttctcat ctggagagaa atcctctccg aagcagctac ctgggcctta caggagcct tgaagattca cctcaagtct tacaggaccc ttccagcagg tcctgcagac ctcattttga gaaatgagag cgggaggtgc	gtgtggggaa gtattagtct gagaaaaaaa agcaaaatta gggatgggag tctttagata tatctataga ggtggagggc atctagaagg gggtgacagt ccctccagga aggtcatctc gagggagggc gctctacagg cacatctatc gcaagattca tagagaagat ccaaagctg tatgttactt aagctctgtg gtgtgaggaa cacctggcac cctcagacc	tcagtggtgt gggacataca accattgcaa aatatttgta agaactggca cttcatgtgg aaccagggca taggatctga gtacctgtgg ggactgacat cctcttctct agtgctccag aggtgggcag ggtgagggaa ttttgggtcc gtgggaggtg aggtaacttg tgccttccc tgccttaagg accttacaca agtgcctgct	tgggggtggg gaaggcagag attggatgtt ctagattcag attatgagag tctccaaaat caggggagca acccaggtct gaggtgaggt	24960 25020 25080 25140 25200 25320 25380 25440 25500 25560 25620 25680 25740 25800 25920 25920 26040 26100 26160 26220 26280

APP_ID=10643801 Page 16 of 65

cagcccacat	cggtgctttg	gttgcttttt	ctgcaggtct	ggctagatac	cctcactcct	26400
taggttgcca	tccaggccag	gggcaggaca	acacgaatgt	ctgaggggag	ggaagaagcc	26460
tcttgttttt	ccccagaccc	ctgtgctctc	agcatagcag	gtagcttcct	cagcacgtca	26520
			gagtgcattc			
			aggctggtag			
			ggtgcatggg			
			aggtgagaaa			
			aatggcagag			
			ggaagcccag			
			acgggctttg			
			tatgtgcaca			
			gtagcctcaa			
			ggactcagac			
			cacagtgtga			
			cttggggtca			
			cccagacccc			
			ctaccactat			
gcctggctgg	tagggagctg	agcagcttgt	agaacaccag	ctcacgcagc	atgtgatggg	27420
gactggcccc	aggctatagg	ttaataattg	atcagaccca	accacagccc	agaaaccggc	27480
			tcacctcgcc			
			agctactgct			
			ctgctggcag			
			gaccagagat			
			gccctttctc			
			ctgataataa			
			tgccttttta			
			ttaagtagtg			
			atgaaaatac			
			tatattggta			
			catttgtttc			
ttatatata	acctgagtaa	attcaaacat	catatttaat	tttcccaata	ccctataaga	28200
			gcaagtggca			
			gccacactgc			
			gtggcttcag			
			ggtgatgtgt			
			cttctcatga			
			ccagagcctg			
			atttagttca			
			acctggtttc			
			gagggaggca			
			gggagggag			
			catcaggcct			
cctcagcagc	agagtaagga	caagtgggta	gggttacccc	ccttcccaga	gagaccagcc	28920
ctctaagcag	tggggcctgg	agctcagccc	cctctggtcc	ttttacccct	caagagagtt	28980
agagatttct	ggaagctagg	tttccaggat	gctcagacca	tagcctaaac	ctcatcgtcc	29040
ctatctggcc	cacctggagc	atccacctag	aggatgccac	tagaggagcc	tggatgcctg	29100
			tcaggcccaa			
			cctttagaca			
			ctcttgtagg			
			ctaagctggt			
			agagagttgt			
			gggctagatt			
catttccctc	cctttagga	catagaaca	ctacatccag	ccttatcttc	tcccatagga	29520
2200222002	ggeteaacat	antananana	gaggatgaga	tccagaggga	agcagcotac	29580
aaccaaayya	ggctcaacat	gytyayaaya	gagcatgaca	tagastasst	tottoocac	29500
tagaaaaaa-	actactaggg	atacatact	cagcaagggt	agatgagtag	ctactacast	20700
Lyyaaaaagt	cccagaagga	gcccatgett	ctcccaccaa	acatyaytac	at aggreet	20760
			aagatgcctc			
			gatattgggg			
			aaaatggaaa			
cagctagtgg	cgagccatga	gataaagcag	gcatggcaca	ageteteett	cctttctgtg	29940

APP_ID=10643801 Page 17 of 65

					cagtggaagc	
					acttttgaga	
					tcactgcagc	
					gggactacag	
					agtctcgcta	
					agcttcccaa	
					gaagacaggg	
aggctgatgg	gctctgcgct	ttggcctggg	acttcctgga	ttgccgttat	gttggaaggg	30420
					ggtctgggac	
					ctgtgtttga	
					cccttgagcc	
					agacagtggc	
tcagccccag	tcttgagatg	cagaggcact	gggtaggtgt	tccctcccct	tatccacagt	30720
					agcagcttca	
					gcccatgggc	
ccctcgatgc	caggacagtc	catcagagtc	tgggagatga	ggctcctctt	gtcccaggaa	30900
					gggccccatg	
cccatggccc	tgggtgtgcc	tagcttagtg	ccacagtaaa	cactcactcc	atccaccatg	31020
gcccagaggg	gagatgaagc	ccagtaggac	ctgacctgtg	gccatctgcc	ccccaggagt	31080
ggcctgcagt	gccatcctca	tgtacatatt	ctgcactgat	tgctggctca	tcgctgtgct	31140
ctacttcact	tggctggtgt	ttgactggaa	cacacccaag	aaaggtaagt	gcaaggcctc	31200
					agggcctcat	
					tccttttggg	
gggaggttaa	aagcccctca	aagggcactg	ttctggtcct	gacaagagtt	cacactcagt	31380
cgagggtttg	cataacatga	aggaatgaat	gtggaaaggg	gcctgatggg	aagggggcat	31440
					gtctgccttg	
					tggcaggagg	
tcacagtggg	tccgaaactg	ggctgtgtgg	cgctactttc	gagactactt	tcccatccag	31620
					tgaactcagg	
ccttaaccca	cccacaggga	agcaagttta	gaccaagttg	gtctcttcat	ttcctttcta	31740
ctgtgtcact	ggctgtgctg	gggaccccac	tgctcttctg	agtatccatc	ttctttgggc	31800
cagccctgag	gtcctgacag	ggaaatggtg	gctcagtttg	gctttcagtc	tcagctctgt	31860
ctggcccctg	cctggtctgc	aagctgggct	ggtgaggcac	agccatctgg	ccctgatgca	31920
					tttccccaca	
					cctagctgct	
					tgtgaaagag	
					tgagatcctg	
					tcggtatttt	
gggggtggca	gggccagctc	cttctgctca	tccttagcct	aagcccagtc	ttcccgggac	32280
					ctctaactgc	
					accctctaat	
					tgcatagtct	
					ccaggttctt	
ttccactgat	ttcctactgc	ctgtttctct	gggagagatt	caatccctgg	atttccccat	32580
					atctcagttt	
					tccagtgcag	
					ttgcatcctg	
					ctgctgagcc	
					tgggtgggag	
					ccagtgttct	
					cccatccact	
					tcctttgcta	
					acatctctgt	
					ctgtgagggc	
					tgttgagcct	
					tctccctctg	
					cactctatgg	
gggtgtgtgt	gaccctcctg	tcccaccccc	ttttcctggc	ctcttgccag	taatcatgta	33420
					gactctggtc	
tttgctgcca	gaacagctca	tctggcccag	agtgtatccc	ttctgttggc	acaggtgggg	33540

APP_ID=10643801 Page 18 of 65

ttcttgtgtt	agcaacagcc	accgagacca	ccagccacct	ggaagaggag	cagacagtgc	33600
	ctctccccaa					
	ttagaatcac					
	gggactatcc					
	gtctgctttg					
	gtgtaaactt					
	ctgtggtggg					
	tgacttgata					
tgggcatcgt	gttgggctgg	gactttgcca	cgggaaacag	gcagcaagag	gacacaagag	34080
caggcatgtc	aacagaacct	tcattggcgg	tatccttccc	ctccttccag	aacggacatt	34140
ctctccagcc	ctgggggagg	ggagtgtgac	atgaaaacag	atcagagetg	gtcagatgcc	34200
	tgggtcctac					
	tgtcccatca					
	ggtgacacat					
	tgcaggataa					
	cttcccccg					
	gctgtgggtt					
	aaaagatgct					
	agctcaggag					
	atgcctgcct					
	gagagctaac					
	cagagctcat					
actagctatg	gattagactg	ctgctgtttc	ccatttattt	ggggagtagc	tgagagttgg	34920
tttggttttt	gagcaacttt	aatctgtttg	ccaagggcaa	agcgggagaa	agagcatcag	34980
tgccccaagc	agtggggatg	agagtgaggg	agtcttgctc	acatttgcac	agactggcag	35040
	gggagtggtg					
	tttccaaggc					
	gccaggaggc					
	gccagtgact					
	gtgggagtgt					
	cattccttgt					
	tgtggacaaa					
	tttaaaatgt					
	gtagaataca					
	agctgtatgt					
	gtgggttttg					
	ggttttatct					
ttcctatatt	tttaaaattc	tctaggagtt	tctcttcttt	tccctctccc	ctccctccc	35820
ctccctccc	cctcctccgt	tcctctcccc	tctcctccgt	tcctctgccc	tctcctccgt	35880
tcctctcccc	tctcctctcc	tctcccttct	ctcctttctt	cctttccttc	tttcctttct	35940
tctcactctg	tcactcaggc	ttgagtgcag	tggtgcaatc	tcggtttact	gcagcctctg	36000
	tcaagccatc					
	gcccagttaa					
	ctcaaactcc					
	ggcatgagcc					
	atgagcagaa					
	tgtaacacag					
	catcacccac					
	catcgtttag					
	cttacaacta					
	ccttcctgcc					
	cagctgcagt					
	gtgagctgtg					
caaggagctc	acagtttgga	gagactgaca	gtgggggcag	agcttgcagc	caaggccccg	36780
gttgccaaac	tcaggaactt	ggactttact	cacatgaagc	cagacacact	ctccagtcta	36840
	gggttggatt					
	ggagggaagg					
	ctgagaggaa					
	gactgcccaa					
	tcattgcagc					

APP_ID=10643801 Page 19 of 65

tccctcccta	ccctccgggt	atgccccggt	atccctctcc	cagccagttt	cctctgaccc	37200
aaggtcatcc	ttgcagctgg	tgaagacaca	caacctgctg	accaccagga	actatatctt	37260
tggataccac	ccccatggta	tcatgggcct	gggtgccttc	tgcaacttca	gcacagaggc	37320
					tggcaggcaa	
					caccccctgt	
					tgacacaggg	
					gcttcagaca	
					aactcggata	
					cccttgtgtt	
					cctgagacct	
					gaattagggc	
					tagctgcatt	
ttacagatga	ggaaactgag	gctcagaaaa	atgaatagct	tacacagaac	cagacaactc	37920
caaaagaggct	ggggtaggtg	tagaacccaa	gtccagggtt	ctttatgttt	tatacctgac	37980
					ccttccctcc	
					aagaatggga	
					tccatgcctg	
					ctgcgtcatg	
					agggcagcag	
					gagtcagtca	
					tttgcccatg	
tgtgtctggg	tgggcacaga	tgcaacctgt	ggcctgtggg	cccttgcagg	tgggccgaga	38460
					ttgctgggag	
					gctgttttct	
ctgtcccctg	gggaccttac	ctcaggcttt	ggaagaagag	gctgccctgc	aggctcagcc	38640
ctgggccagc	ccctggggac	acattcatat	tggacccagt	ccctgccttc	agggagcacc	38700
					actgtgaaac	
aatggtgagt	ccagggctga	gagaggcctg	gtttggtgga	gggaccaaga	gaacttcctg	38820
					ggcgctcagc	
cttccctttg	cctgggggac	ccagagctct	gatatgctcc	ccagtcccta	gcagtggggc	38940
agaaggccca	tcagaacctg	gtagagaggg	atcatgtgaa	cttgggacac	ccaggtaatt	39000
ctggtacacc	cagctggggg	agggggatgc	ttggccagtg	tccagggcct	ctaggctgac	39060
					tccagagctg	
					atcttcgagg	
					ttcgccccat	
gcatcttcca	tggtcgaggc	ctcttctcct	ccgacacctg	ggggctggtg	ccctactcca	39300
agcccatcac	cactgttggt	aagcccctag	cctgcagacc	aagggctgtc	ctgaacacag	39360
ggtgccatac	agctaatcag	cagtagagac	gggattccaa	tgcaggccac	ctggctctga	39420
tggccatgcc	cttagccatg	aggactttga	agtgttgggt	gctgatattg	gtcaggaggg	39480
					gataagtgag	
					gaagactatt	
gcagcaaaga	ctagtggggg	aatgtgatga	ggatgcgcag	gtgctctagg	gagtcatagc	39660
					tagcaaaata	
gaggaggaag	agaatttta	tcagaaacaa	tagcctacgt	gaagttcaga	agcaagattg	39780
tataattttt	ttgaagaaca	qaaaqaaaaa	cattaatatq	actgcagcat	agacctgtca	39840
gaagagtgga	aaacactggt	tgcacttggc	cctcqtctqt	gttgttttgg	gtgtatttgg	39900
gaccatttag	aggattctaa	agaattacct	attgtaggtg	tatatataca	tgttaatgga	39960
tccccagga	gcacatgggc	ccttggcagt	ggacttgagg	ggccaaagct	cacacagatc	40020
ctttacattc	ctaggccagg	tatcctacct	tgtactttta	ggtagagaca	aagcaacagg	40080
daddcadcad	gaacatttcc	atgcacaggt	ataactaaaa	aggggctggg	tcctgtgggc	40140
aatataaaaa	aatttgctct	tcaccttgag	aatggagagc	caccagagag	tgtttgggag	40200
addaaattca	gatttgcatt	taaaaatgat	ccttagaaget	actagataga	agatgggtta	40260
raaaaat rra	adccacdada	ccadcccada	gactotttto	atagggagga	gcttggacca	40320
'addaaacyya	antonagaya	gaagagatgt	acatasttta	grayacayty	cagaaatagc	40380
ayyyaycayc	cataggayarg	gaayayatyt	goacyactity	carrataar	aaataaagca	40440
					acacttttta	
					ggagtgcagt	
					tcccacctca	
					tttttgtatt	
ccccccggc	ayayacyatt	ttcaccatgt	tacccayyet	ggictigaac	tcatgagctc	30/40

APP_ID=10643801 Page 20 of 65

```
aaqcaatctq cqqqtctttq cctctcacaq tgctqgaatt acagqcgtga gccaccactc 40800
ctggcctaca ctttttaaag catgtcacat tccttgcaga atccttagaa aacccctatg 40860
aggaagaatc cccatgtgac agatgaggaa actgagggtc agagaggcag gaatggcttg 40920
cccaqagcag agcaaaagca aagatgttta cttgatcccc tgactctcat agaccctcct 40980
agcagaatgc agtgggttca accagtettg ateceatetg cagettagea eetggtggee 41040
tcgggtgggt cccttcacat gcccctgggc ctcagtcttt tcatctgtaa taggggacaa 41100
ccagagatgc agcacataaa gcatttggca cagttccttc cacatggcgg gcccacagcc 41160
cagcgtcacc accttcagca tcatggtgga tgcccagggg aagggtgttg actaaccaga 41220
agcetetgee etgteeetge agtgggagag cecateacea tecceaaget ggageaceea 41280
acccagcaaq acatcgacct gtaccacacc atgtacatgg aggccctggt gaagctcttc 41340
gacaagcaca agaccaagtt cggcctcccg gagactgagg tcctggaggt gaactgagcc 41400
agcetteggg gecaatteee tggaggaace agetgeaaat caettttttg etetgtaaat 41460
ttggaagtgt catgggtgtc tgtgggttat ttaaaagaaa ttataacaat tttgctaaac 41520
cattacaatg ttaggtcttt tttaagaagg aaaaagtcag tatttcaagt tctttcactt 41580
ccaqcttqcc ctqttctagg tggtggctaa atctgggcct aatctgggtg gctcagctaa 41640
cctctcttct tcccttcctq aaqtqacaaa qqaaactcaq tcttcttggq qaaqaaqqat 41700
tqccattagt gacttggacc agttagatga ttcacttttt gcccctaggg atgagaggcg 41760
aaagccactt ctcatacaag cccctttatt gccactaccc cacgctcgtc tagtcctgaa 41820
actgcaggac cagtttctct gccaagggga ggagttggag agcacagttg ccccgttgtg 41880
tgagggcagt agtaggcatc tggaatgctc cagtttgatc tcccttctgc cacccctacc 41940
tcacccctag tcactcatat cggagcctgg actggcctcc aggatgagga tgggggtggc 42000
aatgacaccc tgcaggggaa aggactgccc cccatgcacc attgcaggga ggatgccgcc 42060
accatgaget aggtggagta actggttttt cttgggtggc tgatgacatg gatgcagcac 42120
agactcagcc ttggcctgga gcacatgctt actggtggcc tcagtttacc ttccccagat 42180
cctagattct ggatgtgagg aagagatccc tcttcagaag gggcctggcc ttctgagcag 42240
cagattaqtt ccaaagcagg tggcccccga acccaagcct cacttttctg tgccttcctg 42300
agggggttgg geoggggagg aaacccaacc ctctcctgtg tgttctgtta tctcttgatg 42360
agatcattgc accatgtcag acttttgtat atgccttgaa aataaatgaa agtgagaatc 42420
ctctatgagt tattgctggg gctgcatctg catctgctgc tgacacctgg ggaagactgg 42480
qtccccaqct qqctqccctc tqaqccctct aqccccttqc acctttqqcc cacatqaccc 42540
tgccatggtg tgtaagttac ctgtcactgt gtaacaaact acttcagagc tcagtggctt 42600
ccaacagcat ctgttgtctc ccagttccaa gtcacgattt gaggcttggc ttggtcctcc 42660
actcagggtt tctcacaggg ctgcagttgt cttggagccg ggctgaggaa ggatccactc 42720
ccaaggccqt tcctgcagtt gttcgcagga ttgacttcct cactggctgt tgacagaggc 42780
cactttcagt tccttgccac atgggccttt ccatggggta gct
<210>
<220>
<400>
        19
000
<210>
        20
<211>
        20
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
       Antisense Oligonucleotide
<400>
        20
                                                                     20
ctcctgccac ctttcttggg
<210>
        21
<211>
        20
<212>
       DNA
<213>
       Artificial Sequence
```

<220>		
<223>	Antisense Oligonucleotide	
<400> tggatgg	21 gaa agtagtctcg	20
<210> <211> <212>	22 20 DNA	
	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	22	
	gat gggaaagtag	20
ccagcig	gac gggaaagcag	20
<210>	23	
<210>		
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<100>	23	
<400>	·	20
CLLCacc	agc tggatgggaa	20
.0.0		
<210>	24	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>	•	
<223>	Antisense Oligonucleotide	
44005	0.4	
<400>	24	20
tgtgtct	tca ccagctggat	20
<210>	25	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	25	
		20
ggrrata.	tgt cttcaccagc	20

```
<210>
        26
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        26
                                                                        20
cagcaggttg tgtgtcttca
<210>
        27
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        27
gtggtcagca ggttgtgtgt
                                                                        20
<210>
        28
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        28
                                                                        20
tcctggtggt cagcaggttg
<210>
        29
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        29
                                                                        20
atagttcctg gtggtcagca
<210>
        30
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
```

```
<223>
         Antisense Oligonucleotide
 <400>
         30
                                                                          20
 aagatatagt tcctggtggt
 <210>
         31
 <211>
         20
 <212>
         DNA
 <213>
         Artificial Sequence
 <220>
         Antisense Oligonucleotide
 <223>
 <400>
         31
                                                                          20
 atccaaagat atagttcctg
 <210>
         32
 <211>
         20
 <212>
         DNA
 <213>
         Artificial Sequence
 <220>
         Antisense Oligonucleotide
<223>
 <400>
         32
                                                                          20
 gtggtatcca aagatatagt
 <210>
         33
 <211>
         20
 <212>
         DNA
 <213>
         Artificial Sequence
 <220>
         Antisense Oligonucleotide
 <223>
 <400>
         33
                                                                          20
 aaggcaccca ggcccatgat
 <210>
         34
 <211>
         20
 <212>
         DNA
 <213>
         Artificial Sequence
 <220>
 <223>
         Antisense Oligonucleotide
 <400>
         34
                                                                          20
 cctccagaca tcaggtactc
 <210>
         35
 <211>
         20
```

Page 24 of 65

```
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        35
                                                                        20
gcattgccac tcccattctt
<210>
        36
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        36
tgatagcatt gccactccca
                                                                        20
<210>
        37
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        37
gatgatgata gcattgccac
                                                                        20
<210>
        38
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        38
                                                                        20.
accacgatga tgatagcatt
<210>
        39
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        39
```

ttgccag	gca tggagctcag	20
<210> <211> <212> <213>	40 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> tggaccc	40 atc ggccccagga	20
<210> <211> <212> <213>	41 20 DNA Artificial Sequence	
<220>	•	
<223>	Antisense Oligonucleotide	
<400> tcttctg	41 gac ccatcggccc	20
<210> <211> <212> <213>	42 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> gaacttc	42 ttc tggacccatc	20
<210> <211> <212> <213>	43 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> ttctgga	43 act tcttctggac	20
<210> <211> <212>	44 20 DNA Artificial Seguence	

<220>		
<223>	Antisense Oligonucleotide	
<400>	44	
ggcácca	gee eeeaggtgte	20
<210>	45	
<211> <212>	20 DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	45	
agtaggg	cac cagececcag	20
	·	
<210>	46	
<211>	20	
	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	46	
cttggagt	cag ggcaccagcc	20
<210>	47	
<211>	20	
	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	47	
	tcc atgtacatgg	20
222		
<210>	48	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	48	
	agg cetecatgta	20

<210> <211> <212> <213>			
<220>			
<223>	Antisense Oligonucleotide		
<400>	49		
agagcti	tcac cagggcctcc		20
<210>	50		
<212>			
<213>	Artificial Sequence		
<220>	•		
<223>	Antisense Oligonucleotide		
<400>	50		
aaccca	caga cacccatgac		20
	<i>;</i>		
<210>	51		
<211>	20		
<212>			
<213>	Artificial Sequence		
<220>			
<223>	Antisense Oligonucleotide		
<400>	51		
taaataa	accc acagacaccc		20
	•		
<210>	52		
<211>	20 .		
<212>	DNA		
<213>	Artificial Sequence		
<220>			
<223>	Antisense Oligonucleotide		
<400>	52		
	aaat aacccacaga		20
	-		
Z0105	£ 2		
<210> <211>	53 20		
<211>	DNA		
<213>			
<220>		•	
<223>	Antisense Oligonucleotide		

<400> acaaaag	53 gage atectectea	20
<210> <211> <212> <213>	54 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> actataa	54 Latg cttcagtcca	20
<210> <211> <212> <213>	55 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> ttgcact	55 tac ctttcttggg	20
<210> <211> <212> <213>	56 20 DNA Artificial Sequence	
<223>	Antisense Oligonucleotide	
<400> agcactt	56 tac ctggatggga	20
<210> <211> <212> <213>	57 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> tcagtga	57 aat gaggcagatg	20
<210> <211> <212>	58 20 DNA	·

<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> ctcaaaa	58 gag gtgacatcaa	20
<210> <211> <212> <213>	59 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	•
<400> ggattct	59 tac ctccagacat	20
<210> <211> <212> <213>	60 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> caggtcag	60 gct ctggaaggga	20
<210> <211> <212> <213>	61 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> ttccccto	61 gga cctccatggg	20
<210> <211> <212> <213>	62 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> gtggcgcg	62 gag agaaacagcc	20

```
<210>
        63
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        63
                                                                         20
gccagggctt cgcgcagagc
<210>
        64
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220.>
<223>
        Antisense Oligonucleotide
<400>
        64
                                                                         20
agggtcttca tggctgaagc
<210>
        65
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        65
aggacccgg agtaggcggc
                                                                         20
<210>
        66
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        66
                                                                         20
acccactgga gcactgagat
<210>
        67
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
```

<223>	Antisense Oligonucleotide	
<400>	67 atac ctccagacat	20 .
<210> <211> <212> <213>		
<220>		
<223>	Antisense Oligonucleotide	
<400> cggttco	68 egca gggtgactgc	20
<210> <211> <212> <213>	DNA .	
<220>		
<223>	-	
<400> aaggcto	69 ggct cagttcacct	20
<210> <211> <212> <213>	70 20 DNA Artificial Sequence	
<220>		•
<223>	Antisense Oligonucleotide	
<400> gggagtt	70 eggc ceegaagget	20
<210> <211> <212> <213>	71 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> gctggtt	71 Cool coagggagtt	20 .
<210>	72	
APP_ID	=10643801	Page 32 of 65

```
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        72
                                                                        20
acttccaaat ttacagagca
<210>
        73
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        73
                                                                        20
ccacctagaa cagggcaagc
<210>
        74
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        74
                                                                        20
gggaagaaga gaggttagct
<210> . 75
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        75
                                                                        20
tcacttcagg aagggaagaa
<210>
        76
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
```

<400> ccttctt	76 ccc caagaagact			20
<210> <211> <212> <213>				
<223>	Antisense Oligonucleotide			
<400>	77 ggtc caagtcacta			20
<210> <211> <212> <213>	78 20 DNA Artificial Sequence	•	·	
<223>	Antisense Oligonucleotide			
<400>	78 agt gaatcatcta			20
<210> <211> <212> <213>	79 20 DNA Artificial Sequence			
<223>	Antisense Oligonucleotide			
<400> ttcgcct	79 ctc atccctaggg			20
<210> <211> <212> <213>	80 20 . DNA . Artificial Sequence	•		
<220>				
<223>	Antisense Oligonucleotide			
<400> ggcttgt	80 atg agaagtggct			20
<210> <211> <212> <213>	81 20 DNA Artificial Sequence			

```
<220>
        Antisense Oligonucleotide
<223>
<400>
        81
                                                                      20
tttcaggact agacgagcgt
<210>
       82
<211>
       20
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        82
                                                                     20
ctccgatatg agtgactagg
<210>
       83
<211>
       20
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
       83
                                                                     20
ctcatcctgg aggccagtcc
<210>
       84
<211>
      20
<212> DNA
<213> Artificial Sequence
<220>
<223>
       Antisense Oligonucleotide
<400>
                                                                     20
ccatcctcat cctggaggcc
<210>
       85
<211>
       20
<212>
       DNA
<213>
      Artificial Sequence
<220>
<223>
       Antisense Oligonucleotide
<400>
       85
                                                                     20
gtgtcattgc caccccatc
```

```
<210>
        86
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400> 86-
                                                                        20
acctagctca tggtggcggc
<210>
        87
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        87
accagttact ccacctagct
                                                                        20
<210>
        88
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        88
                                                                        20
gtcatcagcc acccaagaaa
<210>
        89
        20
<211>
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        89
                                                                        20
gtgctccagg ccaaggctga
<210>
        90
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
```

<223>	Antisense Oligonucleotide		
<400>	90 agc atgtgctcca		20
·			
2010 >	0.1		
<210> <211>	91 20		
<212>	DNA		
<213>	Artificial Sequence		
2000 >			
<220>			
<223>	Antisense Oligonucleotide		
4400>	0.1		
<400>	91 cca gtaagcatgt		20
gaggood			20
.04.0			
<210> <211>	92 20		
<211>	DNA		
<213>	Artificial Sequence		
<220>			
<223>	Antisense Oligonucleotide		
<400>	92		20
gtaaact	gag gccaccagta		20
<210>	93		
<211>	20		
<212> <213>	DNA Artificial Sequence		
\Z1J/	Altilitial bequence		
<220>			
<223>	Antisense Oligonucleotide		
\2237	Antisense Oligonacieotide		
<400>	93		
cttcctc	aca tccagaatct		20
<210>	94		
<211>	20		
<212>	DNA		
<213>	Artificial Sequence		
<220>			
<223>	Antisense Oligonucleotide		
<400>	94	,	
	aag gccaggcccc		20
-			
<210>	95		
<211>	20		

```
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
                                                                        20
acctgctttg gaactaatct
<210>
        96
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        96
gaaaagtgag gcttgggttc
                                                                        20
<210>
        97
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        97
                                                                        20
aaaagtctga catggtgcaa
<210>
        98
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        98
                                                                        20
ccaccctaga tgagcagaaa
<210>
        99
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
        Antisense Oligonucleotide
<223>
<400>
        99
```

ggtaggt	age egetgecace	20
<210> <211> <212> <213>	100 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> agagetg	100 agg taggtagccg	20
<210> <211> <212> <213>	101 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> gcgctga	101 gct ccgggagctg	20
<210> <211> <212> <213>	102 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> aagccaa	102 tgc acgtcacggc	20
<210> <211> <212> <213>	103 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> gagggtc	103 ttc atgctgaagc	20
<210><211><211><212>	104 20 DNA Artificial Seguence	

<220>		
<223>	Antisense Oligonucleotide	
<400>	104	
	ctg cgggcagctt	20
<210>	105	
<211>	20	
<212> <213>	DNA	
(213)	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	105	
gtttttc	cac cttagatctg	20
	•	
<210>	106	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	106	
tgagatg	acc tgcagctgtt	20
<210>	107	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>	•	
<223>	Antisense Oligonucleotide	
<400>	107	
	ctc ctagcaccag	20
<210>	108	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	108	
	ctg caggccactc	20

```
<210>
        109
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        109
                                                                         20
ccacacggcc cagtttcgca
<210>
        110
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        110
                                                                         20
gggcagatgc ctccagacat
<210>
        111
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        111
                                                                         20
tcggttgaca gggcagatgc
<210>
        112
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        112
                                                                         20
gggactcagc tgcacctccc
<210>
        113
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
```

<400> cagatca	113 .gct ccatggcgca	20
<210><211><211><212><213>	114 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> cacctgo	114 ettg tatacctcat	20
<210> <211> <212> <213>	115 20 DNA . Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> gaagagg	115 cet eggeeatgga	20
<210> <211> <212> <213>	116 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> ggctccc	1'16 cca cgacggtggt	20
<210> <211> <212> <213>	117 20 DNA Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400> ggtcggg	117 tgc tccagcttgg	20
<210> <211> <212>	118	

```
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        118
                                                                       20
agtctctgga aggccaaatt
<210>
        119
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        119
                                                                       20
ggctgggtca gttcacctcc
<210>
        120
<211>
        20
<212>
        DNA.
<213>
        Artificial Sequence
<220>
        Antisense Oligonucleotide
<223>
<400>
        120
                                                                       20
ctcccaggag ctggcacgcg
<210>
        121
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        121
                                                                       20
atgcactcaa gaactcggta
<210>
        122
<211>
        20
<212>
        DNA
<213>
       Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        122
                                                                       20
actgactctt cccttcttaa
```

Page 43 of 65

APP ID=10643801

```
<210>
        123
<211>
        20
<212>
        DNA '
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        123
                                                                         20
acacactaga agtgagctta
<210>
        124
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        124
                                                                         20
cctccacctt gagcaggaca
<210>
        125
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        125
                                                                         20
caccaaggcc cataaatatc
<210>
        126
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        126
                                                                         20
agaaaccacc aaggcccata
<210>
        127
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
```

APP ID=10643801

<223>	Antisense Oligonucleotide	
<400>	127	•
gccaggg	cca agtgtctgtc	20
<210> <211>	128 20	
<211>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
	·	
<400>	128 act aaggactgcc	20
eggageo	act aaggactgee	20
<210>	129	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	129	
gggacat	ggc ctctgcctct	20
<210>	130	
<211> <212>	20 DNA	
<213>	Artificial Sequence	
<220>	-	
<223>	Antisense Oligonucleotide	
<400>	130	
ggtacga	gga accegacetg	20
<210>	131	
<211> <212>	20 DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	131	
gccagct	gtg ccctcagcct	20
.045		
221AN	1 20	

```
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        132
                                                                        20
ccaagccggg cagtccagat
<210>
        133
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        133
gggtaggctc agattggaga .
                                                                        20
<210>
        134
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        134
                                                                        20
cggcacctgt gggacagccg
<210>
        135
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        135
                                                                        20
agagtgaaac cagccaacag
<210>
        136
<211>
        20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
```

<400>	136	·
gctcago	gagg atatgcgcca	20
5		
<210>	137	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
12101	interrotar bodaono	
<220>		
12207		
<223>	Antisense Oligonucleotide	
12237	Intersense original electron	
<400>	137	
	ttcc tcacaccaga	20
aageeet	cicc ccacaccaga	20
<210>	138	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
	•	
<400>	138	
ggcacct	cctg tgaagagaag	20
<210>	139	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Antisense Oligonucleotide	
<400>	139	
tcctgga	accc agtgtgctgc	20
<210>	140	
<211>	20	
<212>	DNA	
<213>	Artificial Sequence	
	•	
<220>		
<223>	Antisense Oligonucleotide	
	5	
<400>	140	
	egtg aggettggtt	20
		•
<210>	141	
<211>	20	
<211>	DNA	•
<213>	Artificial Sequence	
~~±J/	interruptar begaeinee	

```
<220>
<223>
        Antisense Oligonucleotide
<400>
        141
                                                                        20
atacaaagt gtgacatggc
<210>. 142
<211> . 20
<212>
        DNA
<213>
        Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        142
                                                                        20
tccatttatt agtctaggaa
<210>
        143
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        143
                                                                        20
cccaagaaag gtggcaggag
<210>
        144
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        144
                                                                        20
cgagactact ttcccatcca
<210>
        145
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        145
                                                                        20
ttcccatcca gctggtgaag
<210>
        146
<211>
        20
<212>
        DNA
<213>
        H. sapiens
```

<220>		
<400>	146	
	tgg tgaagacaca	20
<210>	147	
<211>	20	
<212>	DNA	
<213>	H. sapiens	
<220>		
<400>	147	
gctggtga	aag acacacaacc	20
<210>	148	
<211>	20	
<212>	DNA	
<213>	H. sapiens	,
<220>		
<400>	148	0.0
tgaagaca	aca caacctgctg	20
<210>	149	
<211>	20	
<212>	DNA	
<213>	H. sapiens	
<220>		
\2207		
<400>	149	
acacacaa	acc tgctgaccac	20
<210>	150	
<211>	20	
<212>	DNA	
<213>	H. sapiens	
<220>		
\2207		
<400>	150	
caacctgo	ctg accaccagga	20
<210>	151	
<211>	20	
<212>	DNA	
<213>	H. sapiens	
<222A		
<220>		
<400>	151	
tgctgaco	cac caggaactat	20

```
<210>
        152
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        152
                                                                          20
accaccagga actatatctt
<210>
        153
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        153
                                                                          20
caggaactat atctttggat
<210>
        154
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        154
                                                                          20
actatatctt tggataccac
<210>
        155
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        155
                                                                          20
atcatgggcc tgggtgcctt
<210>
        156
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        156
                                                                          20
gagtacctga tgtctggagg
<210>
        157
<211>
        20
<212>
        DNA
<213>
        H. sapiens
```

```
<220>
<400>
        157
                                                                       20
aagaatggga gtggcaatgc
<210>
        158
<211>
        20
<212>
        DNA
<213> - H. sapiens
<220>
<400>
        158
                                                                       20
tgggagtggc aatgctatca
<210>
        159
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        159
                                                                       20
gtggcaatgc tatcatcatc
<210>
        160
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        160
aatgctatca tcatcgtggt
                                                                       20
<210>
        161
<211>
        20
<212>
        DNA
<213>
       H. sapiens
<220>
<400>
        161
                                                                       20
ctgagctcca tgcctggcaa
<210>
        162
<211>
        20
<212>
        DNA
<213>
       H. sapiens
<220>
<400> 162
                                                                       20
tcctggggcc gatgggtcca
```

Page 51 of 65

```
<210>
        163
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        163
                                                                          20
gggccgatgg gtccagaaga
<210>
        164
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        164
                                                                          20
gatgggtcca gaagaagttc
<210>
        165
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        165
                                                                          20
gtccagaaga agttccagaa
<210>
        166
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        166
                                                                          20
gacacctggg ggctggtgcc
<210>
        167
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        167
                                                                          20
ctgggggctg gtgccctact
<210>
        168
<211>
        20
<212>
        DNA
```

```
<213>
        H. sapiens
<220>
<400>
        168
                                                                          20
ggctggtgcc ctactccaag
<210>
        169
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        169
                                                                          20
ccatgtacat ggaggccctg
<210>
        170
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        170
                                                                          20
tacatggagg ccctggtgaa
<210>
        171
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        171
ggaggccctg gtgaagctct
                                                                          20
<210>
        172
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        172
                                                                          20
gtcatgggtg tctgtgggtt
<210>
        173
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        173
```

gggtgtc	tgt gggttattta	20
<210> <211> <212> <213>	174 20 DNA H. sapiens	·
<220>		
<400> tctgtgg	174 gtt atttaaaaga	20
<210> <211> <212> <213>	175 20 DNA H. sapiens	
<220> <400> tgaggag	175 gat gctcttttgt	20
<210><211><211><212><213>	176 20 DNA H. sapiens	
<220>		
<400> tggactg	176 aag catttatagt	20
<210> <211> <212> <213>	177 20 DNA H. sapiens	
<220>		
<400> tcccatc	177 cag gtaaagtgct	2.0
<210> <211> <212> <213>	178 20 DNA H. sapiens	
<220>	•	
<400> catctgc	178 ctc atttcactga	20
<210> <211>	179 20	

```
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        179
                                                                         20
ttgatgtcac ctcttttgag
<210>
        180
<211>
        2.0
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        180
                                                                         20
tecettecag agetgacetg
<210>
        181
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        181
                                                                         20
cccatggagg tccaggggaa
<210>
        182
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        182
ggctgtttct ctcgcgccac
                                                                         20
<210>
        183
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        183
                                                                         20
gctctgcgcg aagccctggc
<210>
        184
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
```

acttcac	184 gcca tgaagaccct		20
gottoa	geea egaagaeeee		20
<210>	185		
<211>	20		
<212>	DNA		
<213>	H. sapiens		
\213/	n. Sapiens		
<220>			
\2207			
<400>	185		
	act ccggggtcct	•	20
geegeei	act coggggteet		20
<210>	186		
<211>	20		
<212>	DNA		•
<213>	H. sapiens		
12107	n. baprons		
<220>			
<400>	186	· ·	
atctcag	gtgc tccagtgggt		20
<210>	187		
<211>	20		
<212>	DNA		
<213>	H. sapiens		
<220>			
44005	103		
<400>	187		20
gcagtca	accc tgcggaaccg		20
•			
<210>	188		
<2115			
<211>	20		
<212>	20 DNA		
	20		
<212> <213>	20 DNA		
<212>	20 DNA		
<212> <213> <220>	20 DNA H. sapiens		
<212> <213> <220> <400>	20 DNA H. sapiens		20
<212> <213> <220> <400>	20 DNA H. sapiens		20
<212> <213> <220> <400> aggtgaa	20 DNA H. sapiens 188 actg agccagcctt		20
<212> <213> <220> <400> aggtgaa	20 DNA H. sapiens 188 actg agccagcctt		20
<212> <213> <220> <400> aggtgaa <210> <211>	20 DNA H. sapiens 188 actg agccagcctt 189 20		20
<212> <213> <220> <400> aggtgaa <210> <211> <212>	20 DNA H. sapiens 188 actg agccagcctt 189 20 DNA		20
<212> <213> <220> <400> aggtgaa <210> <211>	20 DNA H. sapiens 188 actg agccagcctt 189 20		20
<212><213> 220 400 <pre>aggtgaa</pre> <210><211><211><212><213>	20 DNA H. sapiens 188 actg agccagcctt 189 20 DNA		20
<212> <213> <220> <400> aggtgaa <210> <211> <212>	20 DNA H. sapiens 188 actg agccagcctt 189 20 DNA		20
<212> <213> <220> <400> aggtgaa <210> <211> <212> <213> <220>	20 DNA H. sapiens 188 actg agccagcctt 189 20 DNA H. sapiens		20
<212> <213> <220> <400> aggtgaa <210> <211> <212> <213> <220> <400>	20 DNA H. sapiens 188 actg agccagcctt 189 20 DNA H. sapiens		
<212> <213> <220> <400> aggtgaa <210> <211> <212> <213> <220> <400>	20 DNA H. sapiens 188 actg agccagcctt 189 20 DNA H. sapiens		20
<212> <213> <220> <400> aggtgaa <210> <211> <212> <213> <220> <400>	20 DNA H. sapiens 188 actg agccagcctt 189 20 DNA H. sapiens		
<212> <213> <220> <400> aggtgaa <210> <211> <212> <213> <220> <400>	20 DNA H. sapiens 188 actg agccagcctt 189 20 DNA H. sapiens		

```
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        190
                                                                         20
aactccctgg aggaaccagc
<210>
        191
<211>
        20
<212> . DNA
<213>
        H. sapiens
<220>
<400>
        191
                                                                         20
tgctctgtaa atttggaagt
<210>
        192
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        192
                                                                         20 .
gcttgccctg ttctaggtgg
<210>
        193
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        193
ttcttccctt cctgaagtga
                                                                         20
<210>
        194
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        194
                                                                         20
agtcttcttg gggaagaagg
<210>
        195
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
```

Page 57 of 65

<400>	195	20
tagtgact	tg gaccagttag	20
<210>	196	
<211>	20	
<212>	DNA	
<213>	H. sapiens	
40005		
<220>		
<400>	196	
tagatgat	tc acttttgcc	20
<210>	197	
<211>	20	
<212>	DNA	•
<213>	H. sapiens	
<220>		
<400>	197	
	ct catacaagco	20
agecaee	.ee cacacaagee	20
<210>	198	
<211>	20	
<212>	DNA	
<213>	H. sapiens	
<220>		
<400>	198	
acgctcgt	ct agtoctgaaa	20
<210>	199	
<211>	20	
<212>		
	H. sapiens	
	cap10	
<220>		
\2207		
<400>	199	
		20
cctagtca	act catatoggag	20
-010	000	
<210>	200	
<211>	20	
	DNA	
<213>	H. sapiens	
<220>		
<400>	200	
	ct ccaggatgag	20

```
201
<210>
<211>
        20
        DNA
<212>
<213>
        H. sapiens
<220>
<400>
        201
                                                                         20
ggcctccagg atgaggatgg
<210>
        202
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        202
                                                                         20
gatggggtg gcaatgacac
<210>
        203
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        203
                                                                         20
gccgccacca tgagctaggt
<210>
        204
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        204
                                                                         20
agctaggtgg agtaactggt
        205
<210>
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        205
                                                                         20
tttcttgggt ggctgatgac
<210>
        206
        20
<211>
<212>
        DNA
<213>
        H. sapiens
```

<220>			
<400> tcagcct	206 tgg cctggagcac		20
<210> <211> <212> <213>	207 20 DNA H. sapiens		
<220>	n. Supremo		
<400> tggagca	207 cat gcttactggt		20
<210>	208		
<211> <212>	20 DNA		
<213>	H. sapiens		
<220>			
<400> acatgct	208 tac tggtggcctc		20
<210> <211> <212> <213>	209 20 DNA H. sapiens		
<220>			
<400> tactggt	209 ggc ctcagtttac		. 20
<210><211><212><212><213>	210 20 DNA H. sapiens		
<220>	•		
<400> ggggcct	210 ggc cttctgagca		20
<210><211><211><212><213>	211 20 DNA H. sapiens		
<220>			
<400>	211		20

```
<210>
        212
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        212
                                                                          20
gaacccaagc ctcacttttc
<210>
        213
<211>
        20
<212>
        DNA
<213>
        H. sapiens
<220>
<400>
        213
                                                                          20
ttgcaccatg tcagactttt
<210>
        214
<211>
        20
<212>
        DNA
<213>
        M. musculus
<220>
<400>
        214
                                                                          20
cagctcccgg agctcagcgc
<210>
        215
<211>
        20
<212>
        DNA
<213>
        M. musculus
<220>
<400>
        215
                                                                          20
tgcgaaactg ggccgtgtgg
<210>
        216
<211>
        20
<212>
        DNA
<213>
        M. musculus
<220>
<400>
        216
                                                                          20
atgaggtata caagcaggtg
<210>
        217
<211>
        20
<212>
        DNA
<213>
        M. musculus
```

```
<220>
<400>
        217
                                                                        20
tccatggccg aggcctcttc
<210>
        218
<211>
        20
<212>
        DNA
<213>
       M. musculus
<220>
<400>
        218
                                                                        20
cgcgtgccag ctcctgggag
<210>
        219
<211>
        20
<212>
        DNA
<213>
        M. musculus.
<220>
<400>
        219
                                                                        20
taccgagttc ttgagtgcat
        220
<210>
<211>
        20
<212>
        DNA
<213>
        M. musculus
<220>
<400>
        220
                                                                        20
ttaagaaggg aagagtcagt
<210>
        221
<211>
        20
<212>
        DNA
<213>
        M. musculus
<220>
<400>
        221
                                                                        20
taagctcact tctagtgtgt
<210>
        222
<211>
        20
<212>
        DNA
<213>
        M. musculus
<220>
<400>
        222
                                                                        20
tgtcctgctc aaggtggagg
```

Page 62 of 65

APP ID=10643801

<210>	223		
<211>	20		
<212>	DNA		
<213>	M. musculus		
		•	
<220>			
<400>	223	•	
	act tggccctggc		20
J . J.		•	
<210>	224		
<211>	20		
<212>	DNA		
	M. musculus		
<213>	M. Musculus	•	
<0000×			
<220>	•		
			•
<400>	224		0.0
ggcagtco	ctt agtgactcca		20
<210>	225		
<211>	20		
<212>	DNA	•	
<213>	M. musculus		
		·	
<220>			
<400>	225		
	ggt teetegtace		20
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
<210>	226		
<211>	20		
	DNA	•	
<212>			
<213>	M. musculus		
		•	
<220>	•		
<400>	226		
tctccaat	cct gagcctaccc		20
<210>	227		
<211>	20 .		
<212>	DNA		
<213>	M. musculus		
<220>			
-2207			
<400>	227		
			20
Lygogoat	cat cctcctgagc		20
Z21.05	228		
<210>	228		
<211>	20		
<212>	DNA		

Page 63 of 65

```
<213>
      M. musculus
<220>
<400> 228
                                                                       20
ttcctagact aataaatgga
<210>
        229
<211>
        20
<212>
       DNA
<213>
       Artificial Sequence
<220>
<223>
       Antisense Oligonucleotide
<400>
        229
ccttccctga aggttcctcc
<210>
        230
<211>
        20
<212>
       DNA
<213>
      Artificial Sequence
<220>
<223>
        Antisense Oligonucleotide
<400>
        230
ctgctagcctc tggatttga
<210> 231
<211> 19
<212> RNA
<213> Artificial Sequence
<220>
<223> Oligomeric compound
<400> 231
                                                                    19
cgagaggcgg acgggaccg
<210> 232
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Oligomeric compound
<221> misc feature
<222> (1)...(19)
<223> bases at these positions are RNA
<400> 232
                                                                    21
cgagaggcgg acgggaccgt t
<210> 233
<211> 21
<212> DNA
```

```
<213> Artificial Sequence

<220>
<223> Oligomeric compound

<221> misc_feature
<222> (1)...(19)
<223> bases at these positions are RNA

<400> 233
cggucceguc cgccucucgt t
```

21

APP_ID=10643801 Page 65 of 65